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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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DAVIDSON, DAVIDSON & KAPPEL, LLC 485 SEVENTH AVENUE, 14TH FLOOR NEW YORK, NY 10018			EXAMINER WEBB, CHRISTOPHER G	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,804

Applicant(s)

SEYFRIED, VOLKER

Examiner

Christopher G. Webb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 13 and 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20030623.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The condition set forth by claim 6 invalidates the step of "influencing the light components of the illuminating light that comprise wavelengths within the detection spectral region" from claim 1 because if claim 6 is valid, there are no wavelengths of the illuminating light that comprise wavelengths within the detection spectral region.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 7-8, 10, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Modlin et al. (US 6,326,605 B1, hereafter Modlin).

As to claim 1, Modlin discloses a method for microscopy that comprises the steps of: generating pulsed illumination light (col. 6, line 44) with wavelengths in a spectral region (col. 6, lines 50-52); defining a detection spectral region within the illumination spectral region (col. 10, lines 27-28); influencing the components of the illumination light

that are within the detection spectral region (col. 7, lines 1-3); illuminating a specimen with the illuminating light (col. 8, lines 1-3); and detecting the light proceeding from the specimen that is within the detection spectral region (col. 10, line 40).

As to claim 3, Modlin discloses that the components of the illumination light that lie within the detection spectral region have their polarization states modified (col. 9, lines 38-40).

As to claim 4, Modlin discloses that the modification of the polarization states is a rotation of linear polarization (col. 7, lines 37-39).

As to claim 5, Modlin discloses that the influencing of the illumination light encompasses a spectral filtration (col. 7, lines 1-3).

As to claim 7, Modlin discloses that a pulsed laser is provided for generating the pulsed illumination light (col. 6, line 44).

As to claim 8, Modlin discloses a microscope (col. 2, lines 9-11) having a light source (fig. 3, element 102) for generating pulsed illuminating light (col. 6, line 44) from a spectral region (col. 6, lines 50-52), a detector for detecting the detection light (fig. 3, element 144) proceeding from a specimen (fig. 3, element 120) in a detection spectral region (col. 7, lines 1-3) that is within the illumination spectral region, and the illuminating light contains no light from the detection spectral region having the same polarization properties (col. 9, lines 38-40).

As to claim 10, Modlin discloses a spectral filter (fig. 4, element 114) that modifies the polarization state of the light components of the illumination light that comprise wavelengths within the detection spectral region (col. 9, lines 39-40).

As to claim 14, Modlin discloses a confocal scanning microscope (col. 7, lines 51-52) having a light source (fig. 3, element 102) for generating pulsed illuminating light (col. 6, line 44) from a spectral region (col. 6, lines 50-52), a detector for detecting the detection light (fig. 3, element 144) proceeding from a specimen (fig. 3, element 120) in a detection spectral region (col. 7, lines 1-3) that is within the illumination spectral region, and the illuminating light contains no light from the detection spectral region having the same polarization properties (col. 9, lines 38-40).

As to claim 16, Modlin discloses a spectral filter (fig. 4, element 114) that modifies the polarization state of the light components of the illumination light that comprise wavelengths within the detection spectral region (col. 9, lines 39-40).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 11-12, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modlin in view of Blumberg et al. (US 3,973,129, hereafter Blumberg).

As to claim 2, Modlin discloses the method of claim 1 as noted above. Modlin does not disclose that the influencing includes a removal of the light characteristics of the illumination spectral region that are within the detection spectral region. Blumberg

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teaches the use of filters to block illumination wavelengths that lie within the detection spectral region (col. 6, lines 29-33). It would have been obvious at the time of invention to one of ordinary skill in the art to use the filters of Blumberg for the influencing disclosed by Modlin. This would eliminate the possibility of illumination light being detected as fluorescence by the detector.

As to claim 11, Modlin discloses the apparatus of claim 8 as noted above. Modlin also discloses the use of a filter wheel (fig. 3, element 106) in the path of the illuminating light. Modlin does not disclose a spectral filter that removes the light components that are within the detection spectral region from the illumination light. Blumberg discloses spectral filters (fig. 1, element 11) that block portions of the illumination light that are within the detection spectral region (col. 6, lines 29-33). It would have been obvious at the time of invention to one of ordinary skill in the art to specify that the filter wheel of Modlin included filters of the type suggested by Blumberg. By filtering out any light in the detection spectral region, the possibility of illumination light being sensed by the detector is avoided.

As to claim 12, Modlin discloses the use of a filter wheel (fig. 3, element 106) in the optical path between the specimen and the detector. Modlin does not disclose a spectral filter that allows only wavelengths within the detection spectral region to arrive at the detector. Blumberg discloses spectral filters (fig. 1, element 12) that pass wavelengths within the detection spectral region to the detector (col. 4, lines 38-42). It would have been obvious at the time of invention to one of ordinary skill in the art to specify that the filter wheel of Modlin included filters of the type suggested by Blumberg.

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By passing only light from the detection spectral region to the detector, other noise that comprises wavelengths outside of the detection spectral region is eliminated.

As to claim 17, Modlin discloses the apparatus of claim 14 as noted above. Modlin also discloses the use of a filter wheel (fig. 3, element 106) in the path of the illuminating light. Modlin does not disclose a spectral filter that removes the light components that are within the detection spectral region from the illumination light. Blumberg discloses spectral filters (fig. 1, element 11) that block portions of the illumination light that are within the detection spectral region (col. 6, lines 29-33). It would have been obvious at the time of invention to one of ordinary skill in the art to specify that the filter wheel of Modlin included filters of the type suggested by Blumberg. By filtering out any light in the detection spectral region, the possibility of illumination light being sensed by the detector is avoided.

As to claim 18, Modlin discloses the use of a filter wheel (fig. 3, element 106) in the optical path between the specimen and the detector. Modlin does not disclose a spectral filter that allows only wavelengths within the detection spectral region to arrive at the detector. Blumberg discloses spectral filters (fig. 1, element 12) that pass wavelengths within the detection spectral region to the detector (col. 4, lines 38-42). It would have been obvious at the time of invention to one of ordinary skill in the art to specify that the filter wheel of Modlin included filters of the type suggested by Blumberg. By passing only light from the detection spectral region to the detector, other noise that comprises wavelengths outside of the detection spectral region is eliminated.

Claims 6, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modlin in view of Denk et al. (US 5,034,613, hereafter Denk).

As to claim 6, Modlin discloses the method of claim 1 as noted above. Modlin also discloses that the illumination light could consist of a single wavelength (col. 7, lines 10-12). Modlin does not disclose that the illumination light wavelengths are outside of the detection spectral region. Denk discloses a method in which the illumination wavelength is different from the detection wavelength (col. 5, lines 16-20). It would have been obvious at the time of invention to one of ordinary skill in the art to combine the condition of Denk with the method of Modlin. By having separate wavelengths for detection and illumination, it is easier to achieve a high signal-to-noise ratio without additional optics.

As to claim 9, Modlin discloses the apparatus of claim 8 as noted above. Modlin also discloses that the illumination light could consist of a single wavelength (col. 7, lines 10-12). Modlin does not disclose that the illuminating light contains no light from the detection spectral region. Denk discloses a microscope in which the illumination wavelength is different from the detection wavelength (col. 5, lines 16-20). It would have been obvious at the time of invention to one of ordinary skill in the art to combine the illumination condition of Denk with the apparatus of Modlin. By having separate wavelengths for detection and illumination, it is easier to achieve a high signal-to-noise ratio without additional optics.

As to claim 15, Modlin discloses the apparatus of claim 14 as noted above. Modlin also discloses that the illumination light could consist of a single wavelength (col.

7, lines 10-12). Modlin does not disclose that the illuminating light contains no light from the detection spectral region. Denk discloses a microscope in which the illumination wavelength is different from the detection wavelength (col. 5, lines 16-20). It would have been obvious at the time of invention to one of ordinary skill in the art to combine the illumination condition of Denk with the apparatus of Modlin. By having separate wavelengths for detection and illumination, it is easier to achieve a high signal-to-noise ratio without additional optics.

Allowable Subject Matter

Claims 13 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: prior art does not disclose a similar apparatus to the present invention in which the further spectral filter is the inverse of the spectral filter.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,094,274, US 5,835,262, US 6,859,313, and US 6,855,941 also disclose relevant prior art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Webb whose telephone number is (571) 272-8449. The examiner can normally be reached on 9AM - 5:30PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CGW


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